Fig. 1

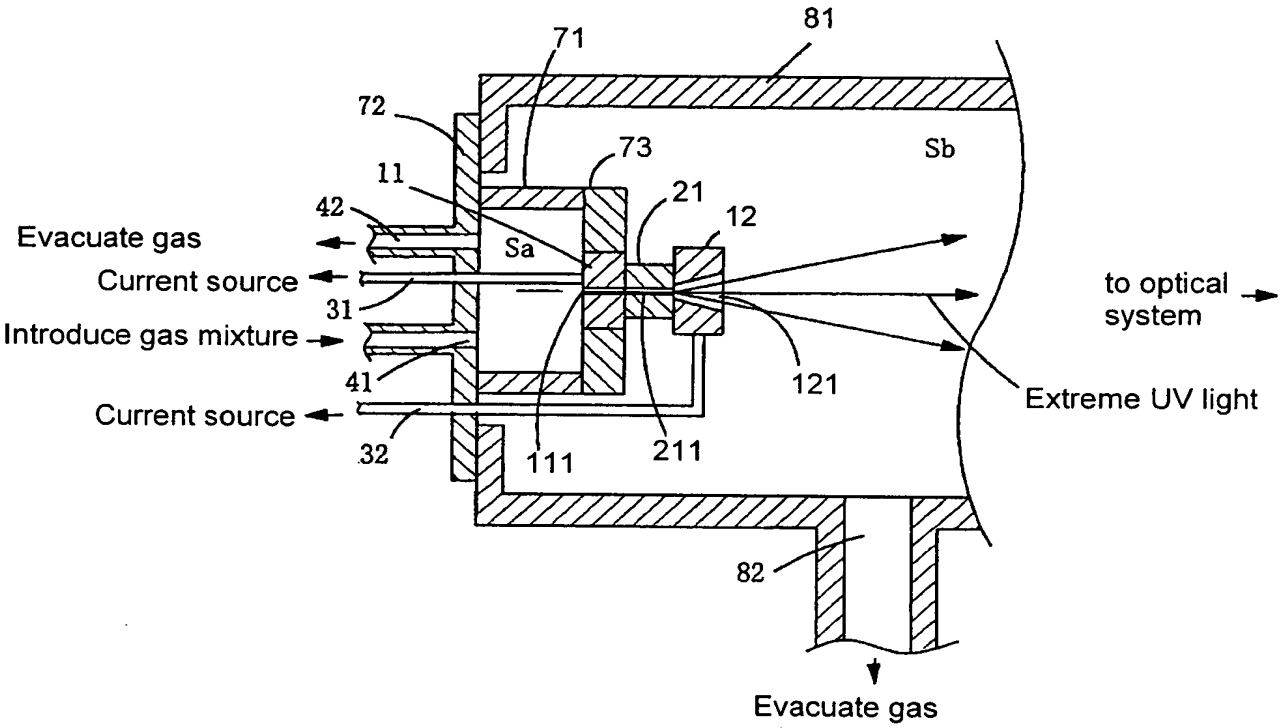
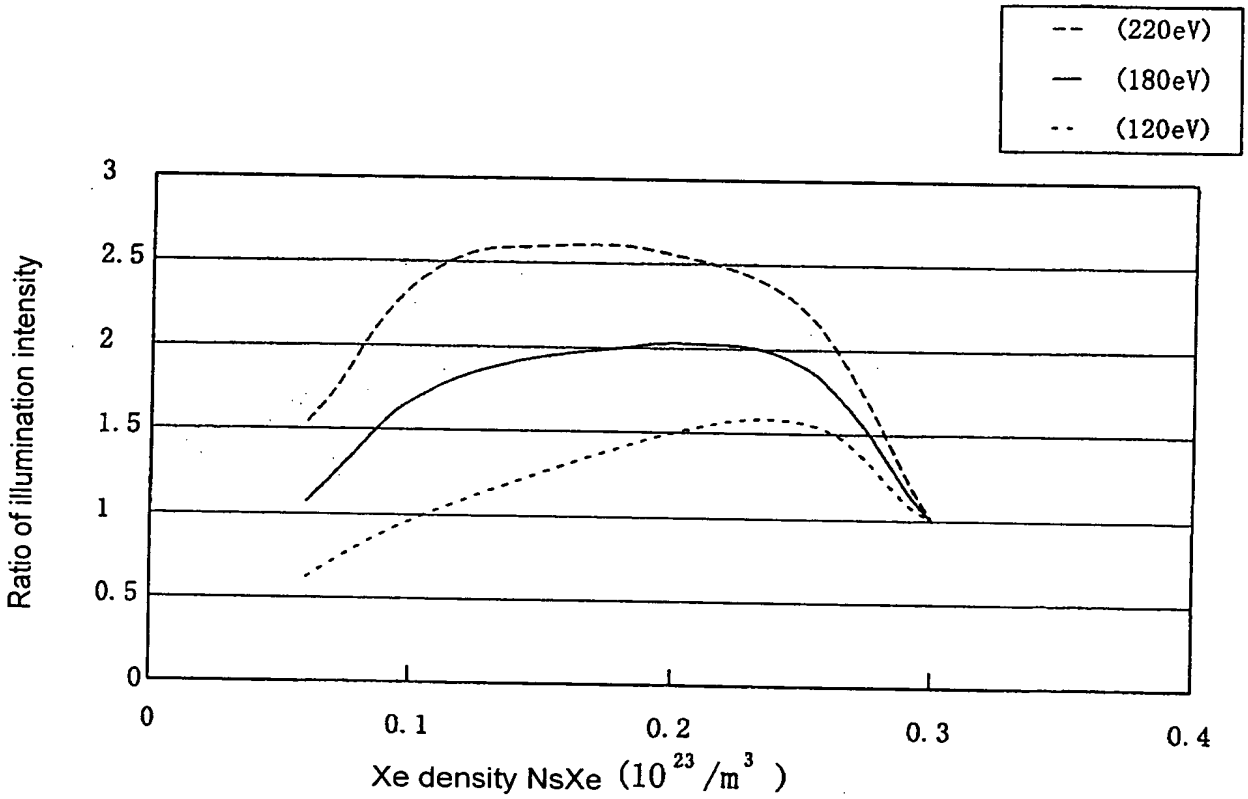

81
71
72
73
Sb
11
21
12
42
Evacuate gas
Sa
Current source
31
to optical system
Introduce gas mixture
41
121
Extreme UV light
Current source
32
111
211
82
Evacuate gas

Fig. 2 (a)

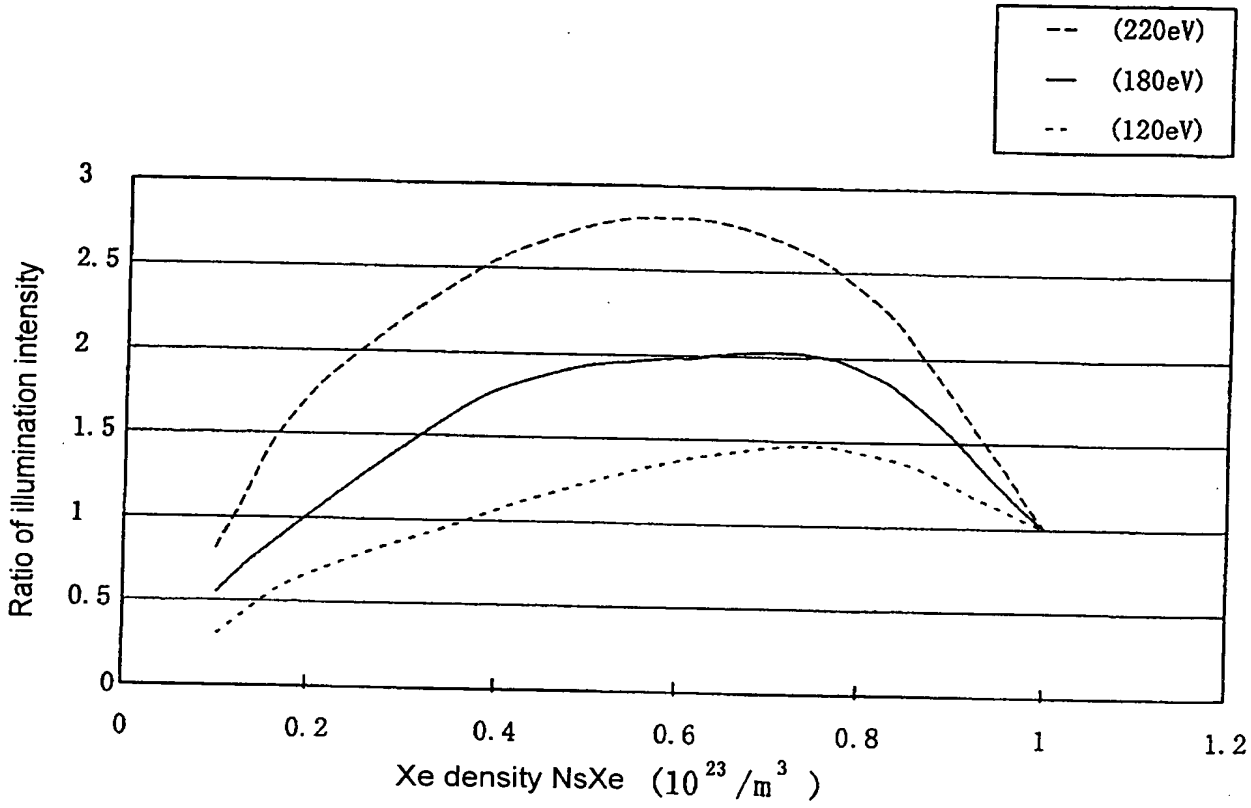


Unit of gas density: $10^{23}/m^3$)

NsKr	0	1.064	3.191	4.253
NsXe	0.3	0.24	0.12	0.06
220eV	1	2.36	2.55	1.54
180eV	1	1.98	1.84	1.08
120eV	1	1.6	1.1	0.63

Fig. 2 (b)

Fig. 3 (a)

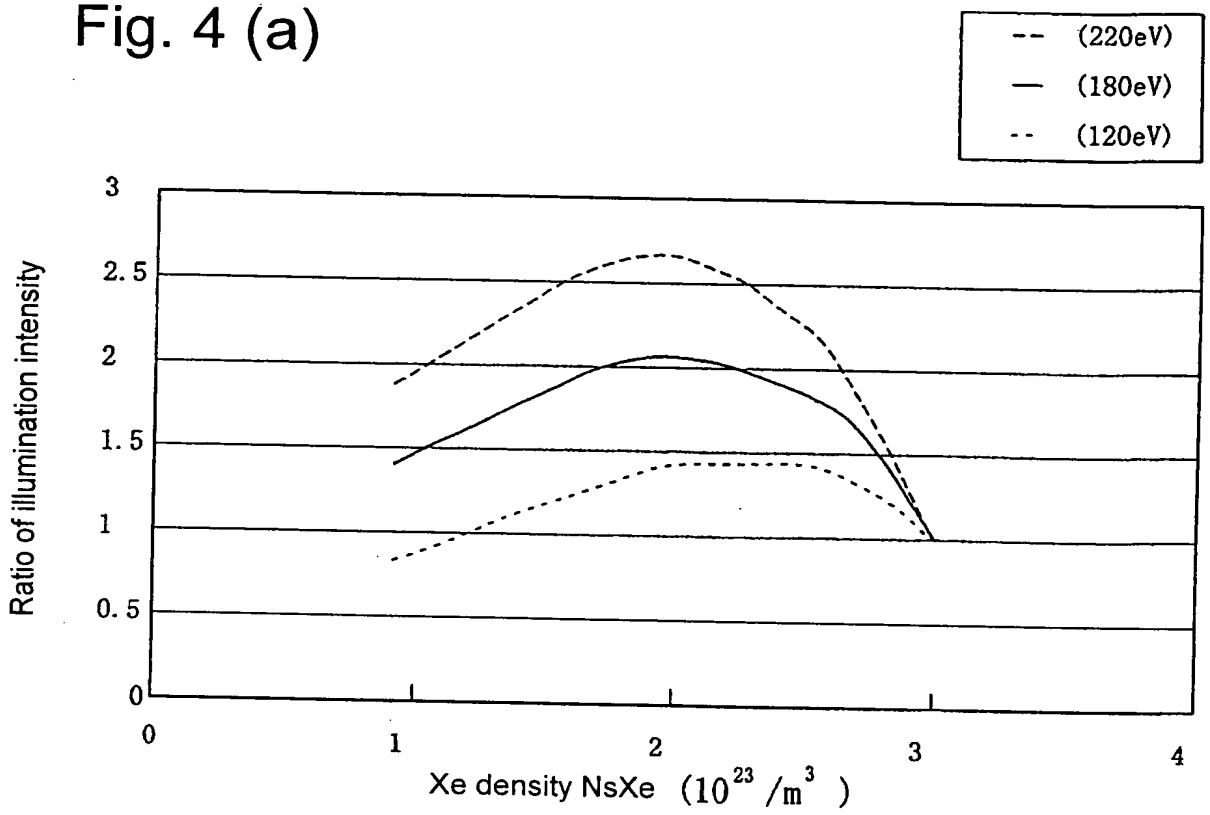


Unit of gas density: $10^{23}/m^3$)

NsKr	0	3.545	7.09	10.64	14.18	15.95
NsXe	1	0.8	0.6	0.4	0.2	0.1
220eV	1	2.4	2.83	2.58	1.74	0.83
180eV	1	1.94	2	1.8	1.04	0.56
120eV	1	1.45	1.39	1.08	0.68	0.32

Fig. 3 (b)

Fig. 4 (a)

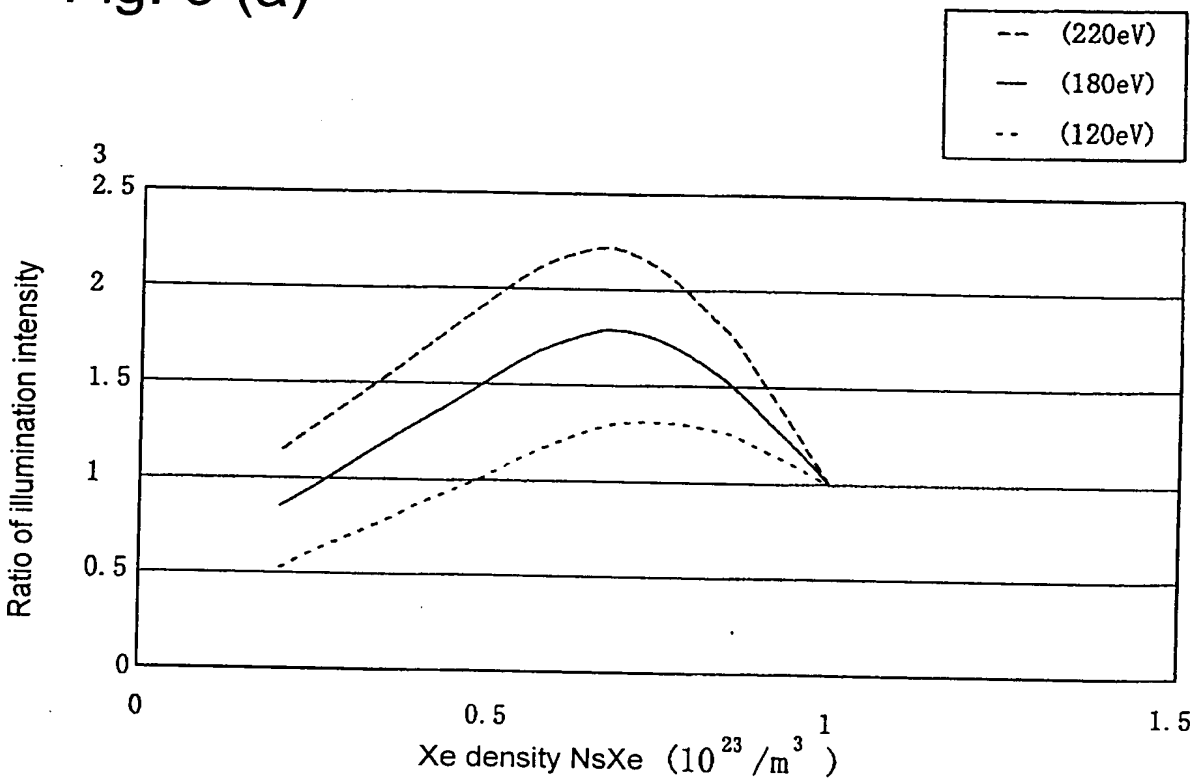


Unit of gas density: $10^{23}/m^3$)

NsKr	0	5.318	10.635	21.27	37.23
NsXe	3	2.7	2.4	1.8	0.9
220eV	1	1.8	2.36	2.68	1.92
180eV	1	1.62	1.91	2.06	1.42
120eV	1	1.33	1.44	1.36	0.84

Fig. 4 (b)

Fig. 5 (a)



Unit of gas density: $10^{23}/m^3$)

NsKr	0	2.88	5.76	11.52
NsXe	1	0.8	0.6	0.2
220eV	1	1.94	2.17	1.15
180eV	1	1.64	1.73	0.85
120eV	1	1.29	1.21	0.52

Fig. 5 (b)

Fig. 6

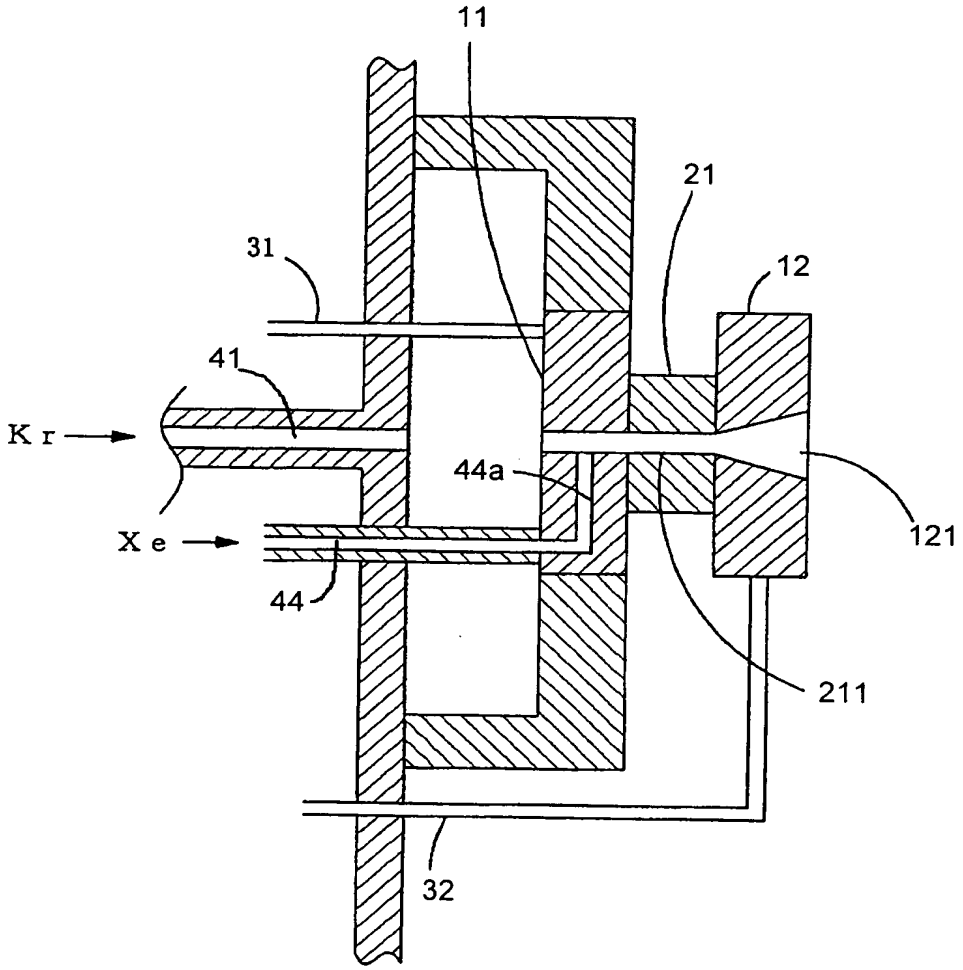


Fig. 7

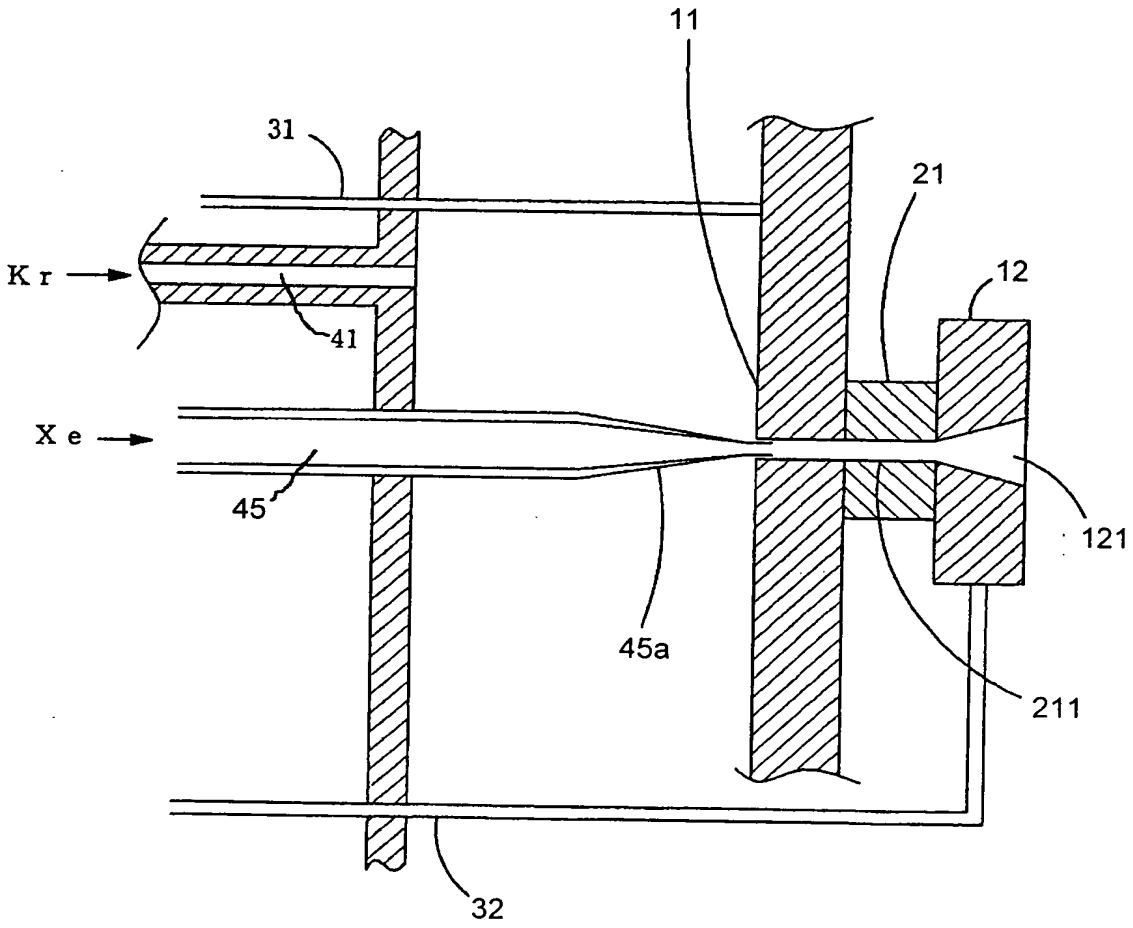


Fig. 8

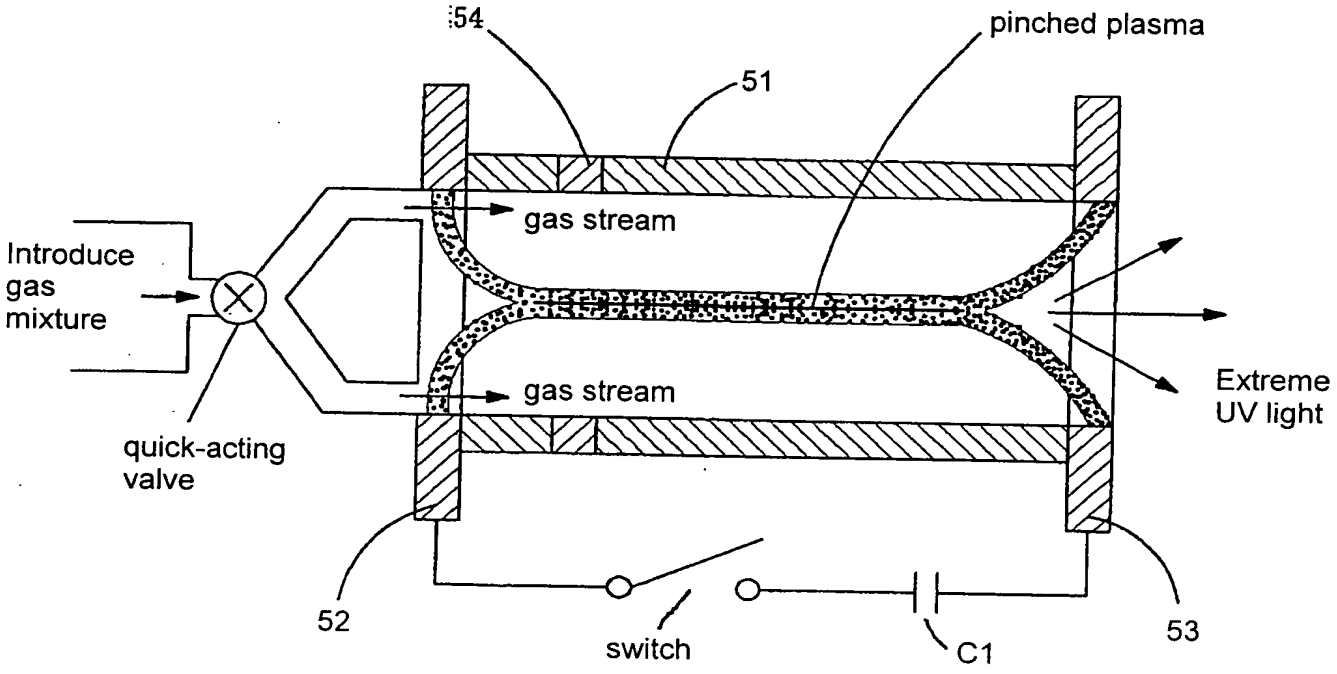

54
51
pinched plasma
gas stream
Introduce
gas
mixture
gas stream
Extreme
UV light
quick-acting
valve
52
switch
C1
53

Fig. 9

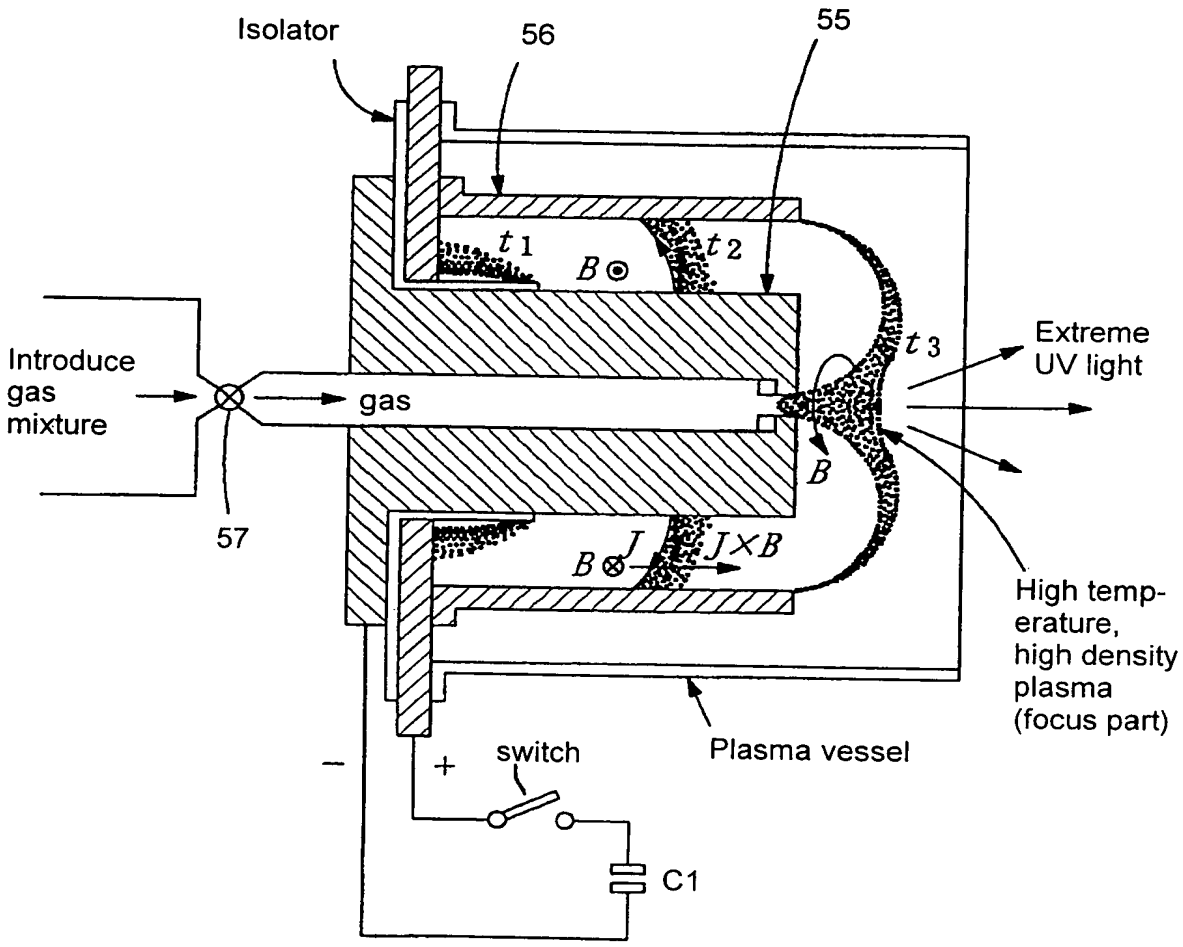

Isolator
56
55
t1
B
t2
t3
Extreme
UV light
Introduce
gas
mixture
gas
B
57
B
J
J×B
High temp-
erature,
high density
plasma
(focus part)
Plasma vessel
−
+
switch
C1

Fig. 10

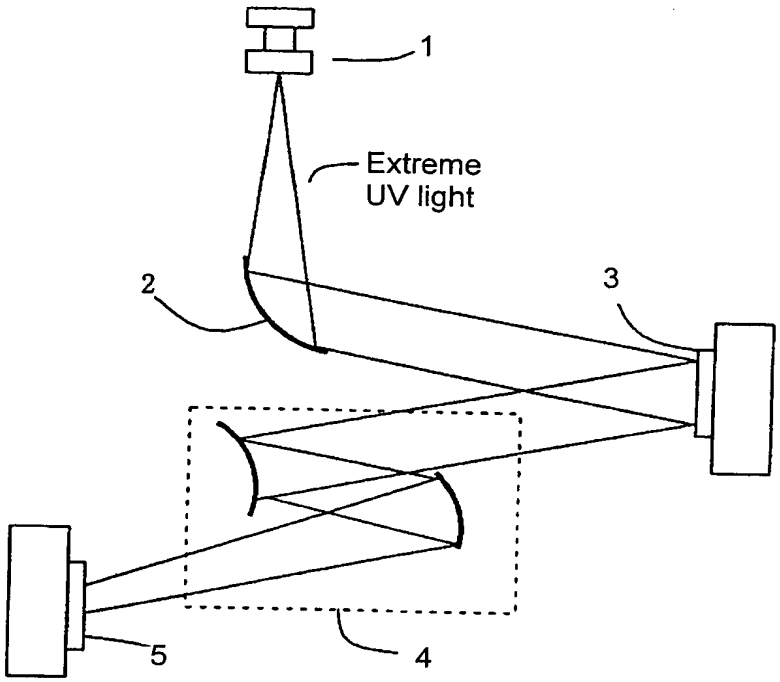


Fig. 11

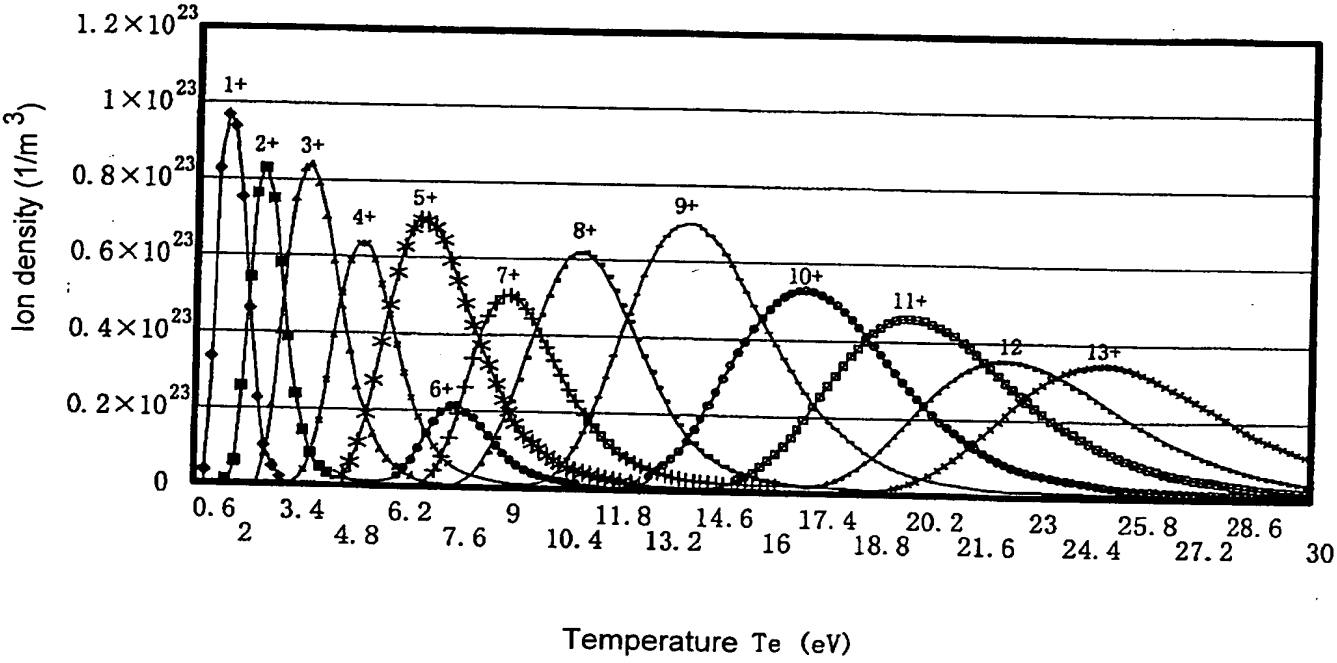

Ion density (1/m 3)
1.2×10^23
1×10^23
0.8×10^23
0.6×10^23
0.4×10^23
0.2×10^23
0
1+
2+
3+
4+
5+
6+
7+
8+
9+
10+
11+
12
13+
0.6
2
3.4
4.8
6.2
7.6
9
10.4
11.8
13.2
14.6
16
17.4
18.8
20.2
21.6
23
24.4
25.8
27.2
28.6
30
Temperature Te (eV)

Fig. 12

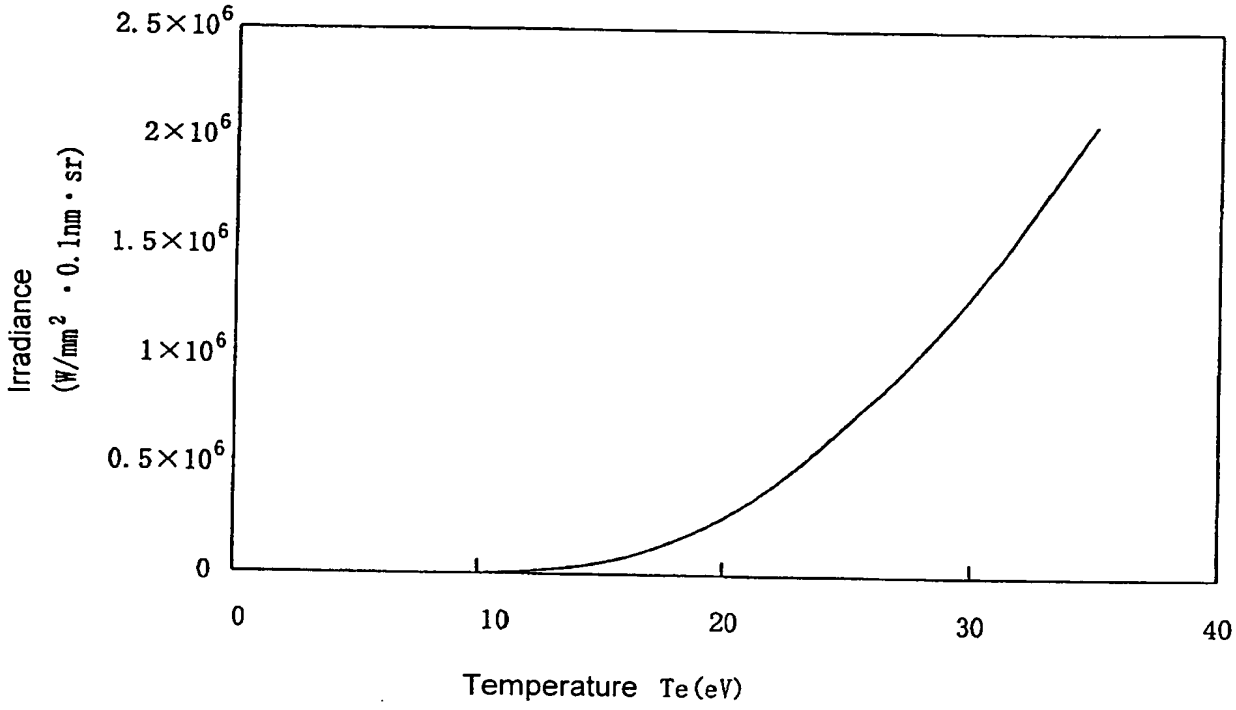

2.5×10^6
2×10^6
1.5×10^6
1×10^6
0.5×10^6
0
Irradiance
(W/mm^2 · 0.1nm · sr)
0
10
20
30
40
Temperature Te(eV)

Fig. 13

	Absorption cross-sectional area of photons with 13.5 nm (Mb)	Number of electrons provided per atom or molecule at a temperature where the density of Xe^{10+} is maximum
Ne	4.0	ca. 6.5
Ar	1.4	ca. 8.0
Kr	1.2	ca. 9.5
N_2	2.5	ca. 8.0
NH_3	1.2	ca. 7.0
Xe	20.7	ca. 10.6
He	0.5	ca. 2.0